



# Modeling and control of nested manufacturing processes using dioid models

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Résumé en anglais	Manufacturing systems are frequently adapted to changing customer demands. However, every extension with respect to the hardware requires a modification of the corresponding model and controller. In this paper we propose a dioid model of manufacturing processes in which parts may visit the same resource more than once. The proposed model can be used to determine a controller that maintains the throughput while starting activities just-in-time. Furthermore, the model can easily be adapted in case of hardware modifications. Also nested processes, i.e., processes in which some activities of part $k$ may be executed prior to activities of part $(k - 1)$ , can be modeled with the proposed approach.
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